SELECTING AND PLANNING THE IMPLEMENTATION OF A PERSONNEL ACCOUNTABILITY SYSTEM FOR A REGIONAL PAID-ON-CALL EMERGENCY SERVICES SYSTEM

STRATEGIC MANAGEMENT OF CHANGE

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ABSTRACT

Partly due to the failure of personnel accountability during the Miller's Reach Urban Interface Fire of 1996, this applied research project was conducted to select and plan the implementation of an NFPA compliant personnel accountability system (PAS) for the Mat-Su Borough. After reviewing and rejecting the minority position that personnel accountability can be achieved solely through supervisory effectiveness in an ICS model, the decision was made to add a PAS into a comprehensive ICS model per the mandate of NFPA 1561 (1995).

The barcode, nametag, and passport systems were identified as the major PAS model being used in the fire service. After reviewing the three models, the passport system was selected for adoption due to its adaptability and flexibility, as well as NFPA compliance. In terms of the regional paid-on-call emergency services system of the Mat-Su Borough, the ability of the passport system to accommodate changing incident parameters, changing crew assignments, and the splitting and changing of crew memberships were among the reasons for its selection. Additional factors favoring the passport system were its ability to expand for the large incident and to incorporate personnel from multiple agencies.

Once the passport system was selected, an extensive planning process was initiated to pave the path for effective implementation. A decision-making system to plan the implementation involving consensus and input from multiple organizational levels was used. With linkages to established cultural concepts of professionalism and safety, target goals and objectives for the implementation of the PAS were established. On the basis of PAS adoption and implementation problems experienced by other fire services, several decisions

were made to void the mistakes of others. Among those decisions were the completion of a comprehensive accountability SOP covering all aspect of the system, the establishment of the position of accountability officers as a command staff position, and the formulation of extensive pre-implementation PAS training programs.

Because efforts were devoted to both PAS selection and implementation planning, the project has received the approval to purchase passport materials and implement the passport accountability system. Further, the openness of the decision-making process during the PAS selection and planning phases has resulted in chief officers and firefighter being favorably oriented to the new accountability system. With the PAS change foundation laid, the implementation process will be taking place throughout the remainder of 1998.

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INTRODUCTION

Over the last twenty to twenty-five years, the rates of injury and death among firefighters have significantly declined. While around 150 firefighters died annually in the 1970s, the annual death count has remained around 100 during the 1990s. Safety has improved, yet many of the continuing annual firefighter fatalities could be prevented if additional safety programs and procedures were adopted (Routley, Bush, and Stern, 1996). One study of firefighter fireground fatalities over a ten-year period found that 25 percent (34 deaths) of those fatalities not related to stress were linked to the lack of an effective personnel accountability system (Morris, Brunacini, and Whaley, 1994).

Partly as a result of the Miller's Reach Urban Interface Fire of 1996, the Matanuska-Susitna (Mat-Su) Borough's Public Safety Department and Fire Chiefs Association had to confront the reality that the personnel accountability system being used in the borough: (1) failed to comply with NFPA 1500 (1992), *Fire Department Occupational Safety and Health Program*, and NFPA 1561 (1995), *Fire Department Incident Management System*, and (2) did not adequately track either individuals or crews. With an emergency services system protecting over 1100 square miles and involving over 400 paid-on-call personnel and a career line-staff of six, and with the need at times to conduct joint operations with State Forestry and/or Anchorage Fire Department, the problem to be addressed by the Public Safety Department involved selecting, modifying, or developing a personnel accountability system (PAS) that would track both individuals and crews within diverse response and operational parameters.

The purpose of this research, using the Change Model, was to replace a deficient personnel accountability approach with a NFPA compliant PAS. Through descriptive,

evaluative and action methodologies, this project was initiated with the goal of bringing the new accountability system on-line during 1998. The following research questions were addressed:

1. What are the positions regarding appropriate and functional PASs for the fire service?
2. What are the major PASs currently available, and which ones are NFPA compliant?
3. Can one of the available PASs be adopted or modified for adoption within the Mat-Su Borough, or will the borough require the design of a new system?

Based on the answers to these three questions, the plan was to adopt/develop a PAS, to develop a Standard Operating Procedure (SOP) to serve as the basis for initial training as well as the implementation of the accountability system, and to complete the implementation plan.

BACKGROUND AND SIGNIFICANCE

When the Mat-Su Borough created the Public Safety Department in 1990, all fire, ambulance and rescue services within an area of over 1100 square miles were placed under its control. With emergency services located in towns and small communities spread over a large geographic area, local departments were allowed to retain their individual names and officers. However, all services were operationally integrated to provide the public with the best levels of protection through available resources. Borough-wide SOPs, training programs, officer standards, equipment standards, and other policies were adopted.

As part of the integration in 1990, the Public Safety Department adopted *Fire Command* (Brunacini, 1985) as its incident command system (ICS). Within the span-of-

control rule of five, personnel accountability was made a supervisory responsibility at all levels of the incident management system. Both the ICS and personnel accountability approach were implemented through extensive training at all levels of the organization and became required components of entry level training programs.

When the new edition of NFPA 1500 (1992) was reviewed by the Public Safety Department's Fire Safety and Standards Committee (FSSC) in 1993, it was apparent that the PAS was not in compliance. With a paid-on-call system, crews arriving on apparatus seldom remained intact. Personnel often arrived by personal vehicle, varying training levels resulted in split assignments, and different levels of physical conditioning sometimes led to individual rather than crew rotation. Attack teams were often staffed on-location from available personnel. The PAS based solely on supervisor responsibility appeared to be working as long as the emergency remained within the capability of the first alarm units. Once an incident grew to a second or third alarm, this accountability system was not working. Ironically, after documenting the deficiency of the current system, the Public Safety Department had the funds earmarked to research and address the situation eliminated from the budget. Since no firefighter had been injured or lost due to a lack of accountability, the borough administration opted to leave the deficient system in place.

When the Miller's Reach Urban Interface Fire exploded within the borough at 1912 hours on June 3, 1996, the weaknesses in the PAS and ICS systems became very apparent. Within eight hours, a three-acre fire became a 12,000-acre fire with an initial loss of over 100 structures (eventually 37,000 acres burned and over 400 structures were destroyed, although over 900 structures were saved). By 0100 hours on June 4th, forty-two pieces of fire apparatus involving seven jurisdictions and three forestry crews were operating on the fire.

By 0400 hours, except for one forestry crew isolated within a Safety Zone near Beaver Lake, all personnel and apparatus were withdrawn to one of three staging areas in an attempt to account for crews and personnel. At other times on June 4th and 5th, at regional levels, apparatus and crews were withdrawn to staging for accountability purposes. Sector terminology from *Fire Command* (Brunacini, 1985) ICS was replaced with the Branch and Division terminology from the National Interagency Incident Management System (1994) ICS at 0800 hours on June 5th. Accountability was finally achieved and maintained beginning with the shift change at 2000 hours that same night (48.75 hours into the fire and 31.5 hours after the Type I Team assumed command of the incident). Miraculously, no firefighter was injured or killed during this period.

While a number of meetings and discussions occurred after the Miller's Reach Fire concerning state actions to more effectively integrate local, state and federal resources for a future incident, the sole state action was the Governor's Executive Order in April 1997 mandating the NIIMS ICS model throughout Alaska. The Mat-Su Borough's Public Safety Department and Fire Chiefs Association adopted the NIIMS ICS system in May 1997, and initiated training programs (Appendix A contains one sample training document) and purchased manuals (National Fire Service Incident Management Consortium, 1993) for all services.

Given the complete breakdown in personnel and crew accountability which occurred during the initial phases of the Miller's Reach Fire, plus the 1993 findings of the FSSC that the current system was inadequate, the Public Safety Department was directed by the borough administration to adopt and implement a PAS that would comply with NFPA 1500

(1992). The FSSC was assigned the tasks of selecting and planning the implementation of the new PAS.

The author of this paper chairs the FSSC. The committee's assignment was directly related to the Executive Fire Officer (EFO) Course, Strategic Management of Change, and focused on the need for the Public Safety Department to have an NFPA compliant PAS. With a pre-existing borough commitment to change to a new PAS, this assigned research project required the FSSC to functionally complete Phase II, *Planning*, of the Change Management Model (National Fire Academy-SMOC, 1996).

LITERATURE REVIEW

While it started in the 1980s, there has been a substantial and continuing interest in PASs with firefighter safety as the central theme throughout the 1990s. Articles and research papers either react to or support NFPA 1500 (1992) and NFPA 1561 (1995). The pertinent sections from NFPA 1500 (1992) are:

> 6-3.1 The fire department shall establish written standard operating procedures for a personnel accountability system in accordance with . . . NFPA 1561 . . . that provides for the tracking and inventory of all members operating at an emergency incident.
>
> 6-3.l.l The system shall consider local conditions and characteristics in establishing the requirements of the personnel accountability system.
>
> 6-3.2 It shall be the responsibility of all members operating at an emergency incident to actively participate in the personnel accountability system.

6-3.3 The incident commander shall be responsible for overall personnel accountability for the incident. The incident commander shall initiate an accountability and inventory worksheet at the very beginning of operations and shall maintain that system throughout operations.

6-3.3.1 The incident commander shall maintain an awareness of the location and function of all companies and sections.

6-3.3.2 Sector officers shall directly supervise and account for the companies operating in that sector.

6-3.3.3 Company officers shall maintain an ongoing awareness of the location and condition of all company members.

6-3.3.4 Where assigned as a company, members shall be responsible to remain under the supervision of their assigned officer.

6-3.3.5 Members shall be responsible to follow the personnel accountability system procedures.

6-3.4 The personnel accountability system shall be used as all incidents.

6-3.5 The fire department shall develop the system components required to make the personnel accountability system effective.

6-3.6 The standard operating procedures shall provide the use of additional accountability officers based on the size, complexity, or needs of the incident. These accountability officers shall work with the incident commander and sector officers to assist in the ongoing tracking and accountability of members.

NFPA 1561 (1995) adds the requirements that the PAS must be a component of an incident management system and additionally must provide: (1) that all supervisors maintain

accountability for all individuals and crews under their supervision, (2) for the rapid accounting of all personnel, (3) for the inclusion of all personnel arriving by apparatus and personnel vehicle in the accountability system, and (4) tracking of personnel entering and leaving hazard zones.

A minority of authors does not support the adoption and implementation of a PAS by fire departments (Brittain, 1993; Coleman, 1997; Cowardin, 1992; Murray, 1993; Peterson, 1990). All are advocates of firefighter safety, but believe that the strong and aggressive use of ICS for all incidents is sufficient to address accountability issues. The incident commander through ICS organizational levels, according to the view of these authors, can maintain or obtain the information necessary for accountability. Like the old accountability approach used by the Mat-Su Borough, personnel accountability rests solely on the ability of incident supervisory personnel being able to always track and account for personnel or crews who report to them within the ICS model.

Coleman (1997) and Cowardin (1992) recognize that this complete reliance on the supervisor within ICS rests on fire companies and crews remaining intact throughout the incident or, at least, intact until rotated through Rehab. When the twenty-two students (all from career or combination fire services) in the Management of Change Course during August 1997 were asked if their crews remained largely intact throughout incidents, all responses were negative. If fact, all reported that initial crews were often split or individually rotated for a variety of reasons throughout incidents. This reported lack of crew integrity matched the pattern known by the FSSC to be the norm in the Mat-Su Borough. Consequently, remaining with and attempting to provide for accountability solely within an aggressive ICS model was rejected as an option.

In contrast, most favor adding some type of PAS into a comprehensive ICS model as outlined by NFPA 1561 (1995). In a recent examination of a fire where two firefighters were trapped and died, Loflin (1997) identified, among other concerns, an inadequate ICS and lack of PAS as two factors that contributed to the tragedy. In fact, Jarboe (1994) lists the failure by chief officers to use a PAS as one of the ten most common fireground errors plaguing today's fire service. Author after author argue that a serious commitment to firefighter safety, as well as the avoidance of exposure to liability through the intentional failure to comply with NFPA standards, must translate into the adoption and implementation of a PAS (Bryson, 1992; Carlson, 1992; Cobb, 1996; Gray, 1996; Jarboe and McBride, 1992; Pedigo, 1992; Pollpeter, 1995; Routley, Bush, and Stern, 1996).

Among fire service professionals there is a consensus concerning the importance of firefighter safety, and a consensus that personnel must be functionally accounted for at an emergency incident. Most believe that a PAS, including mandated supervisor responsibilities, must be added into a strong ICS model if firefighter injuries and deaths due to a lack of accountability are to be prevented. Given the majority viewpoint, plus the Mat-Su Borough's decision to abandon the ICS only approach to accountability, research and articles on PASs was the focus of the remaining literature review.

One body of research is primarily concerned with the number of fire departments that have adopted and implemented some type of PAS. Bryson (1992) received survey responses from ninety-six fire departments; almost evenly split between career and volunteer services. He found that roughly half did not possess a formal written accountability SOP or policy. Bryson asked a number of survey questions to determine if existing PASs met NFPA 1561 requirements. Of the departments with a formal PAS, only 40 percent met NFPA 1561

requirements. He challenges fire service leaders to evaluate any PAS in terms of NFPA 1500 and 1561, and to adopt PASs which meet NFPA standards, are flexible in terms of incident type and size, and are easy to understand and use.

While the percentages vary somewhat, the results of other PAS surveys are consistent with Bryson. Pedigo (1992) surveyed sixteen fire departments in the western half of the country, and found that six (37.5 percent) had implemented at least some form of PAS. Parks (1994) surveyed the members of a National Fire Academy class. Ten of thirteen respondents reported having a PAS; however, all ten reported problems with using their PAS system and had either the IC or Safety Officer operating it. Pollpeter (1995) reported that 84 percent of nineteen responding fire departments had adopted a formal PAS. Gray (1996) had fifty of sixty-two surveys returned. Twenty-eight (56 percent) of these departments had a PAS implemented. If the results from these surveys are accurate (small samples and only fair return rates), perhaps 50-to-60 percent of the fire departments in the country have adopted some type of PAS. Unfortunately, it appears that many adopted accountability systems may not be NFPA compliant.

A number of articles and papers present information about different PASs. One of the more intriguing accountability systems uses barcodes, a scanner, and laptop computer (Schnaidt, 1995). Personnel are scanned-in upon arrival and the IC (or aid) tracks personnel by entering assignments, including entry and exit times, on the laptop computer. As long as every change in individual and crew assignments is entered into the computer, accountability is maintained. Objections to this barcode system include high cost, distraction of ICs from strategic and tactical issues when they are expected to operate the system, the high number of extra personnel often required to operate the system, and its lack of compatibility with other

PASs at large incidents requiring mutual aid (Gee, 1993). However, the barcode model if fully implemented and utilized is NFPA compliant.

There are a variety of tag type accountability systems available. The tag may be only a helmet shield (Diaz, 1995), but this is disappearing due to its assumption of constant crew integrity. Other tags systems include Velcro nametags attached to helmets or coats, metal nametags attached to d-rings, and photo I.D. tags usually attached to d-rings. Tags may be collected and left on a large metal ring or Velcro board on each apparatus, may be dropped-off at the first-in engine, may be collected by the IC, safety officer or accountability officer and taken to the command post, or may be collected and later returned at a site entry location (Baldanza, 1994; Cobb, 1996; Colestock, 1994; Gee, 1993; Hewitt, 1993; Schmidt, 1993; Seng, 1995; SOP, 1995; Weston, 1997). While such systems are inexpensive, most fail to comply with NFPA standards. Most tag systems as used merely identify the names of individuals at the incident, but fail to track crew assignments and individual rotation. When the tags are collected, taken to the command post, and used to track individual assignments to crews and crew assignments to sectors (Hewitt, 1993), the tag model can comply with NFPA standards. However, because of the need to manage individual nametags, the system can easily breakdown at large or extended incidents (Morris, et al., 1994). Surveys of PASs adopted and in operation around the country have found nametag systems to be fairly popular (Diaz, 1995; Seng, 1995; Weston, 1997).

In addition to the barcode and nametag accountability systems, the other major PAS is the passport system developed by the Seattle Fire department (Rose, 1994). A passport is a Velcro-backed card used to identify and track crews and teams. Individual nametags are placed on primary and back-up crew passports on responding apparatus, but the passport

system allows for (even plans for) passports being created from personnel on-scene. If individuals are rotated from a crew, the person's nametag can be transferred from the passport to a personnel status board location. The passport system is the most flexible accountability system available, meets NFPA standards, and had been customized to fit the needs of several hundred fire departments across the nation (Rose, 1994). While some users of the passport system attempt to have it operated by the IC or safety officer, most users designate an accountability officer to manage the system (Gee, 1993). For very large or complex incidents, an accountability group can be created to supervise and coordinate multiple accountability officers (Morris, et al., 1994).

Of major interest to the FSSC were the articles and research papers reviewing fire department projects to select a PAS. Gee (1993) found that fire departments seemed to be shifting to PASs similar to Seattle because it meets "the intent of NFPA 1500 and 1561 (p. 23)." When fire department researchers made the effort to collect and assess information about the different accountability systems, the one selected for adoption was some version, customized to local needs, of the passport system. Forsberg (1993) reported on a countywide adoption of a passport system. Speed and ease of incident scene implementation and the ability to assemble crews on scene were among the reasons for its selection. Noto (1994) selected a passport system because it was "well suited for a county that included volunteer, combination, and paid fire departments (p. 15)." Regional adaptability led Elliot (1994) and Markus (1996) to select a passport model. Turner (1994) opted for a passport system because his survey revealed it to be the dominant PAS in the western United States.

Morris, et al. (1994) reported the most ambitious comparison of accountability systems that ultimately led to the Phoenix Fire Department adopting a modified passport

system. Prior to initiating this project, Phoenix had used a nametag system for over ten years, but the tag system had proven to be difficult to manage. After reviewing the British nametag model, a barcode system, and the Seattle passport system, Phoenix decided to field-test the Seattle and British systems in a six-month test involving two shifts and over twenty-five pieces of apparatus across two battalions. At the end of the test, the participating firefighters and officers overwhelmingly endorsed the passport system, but made a variety of suggestions for customizing the system for Phoenix. After using the modified passport system for two years, the system remains effective.

The final area examined during the literature review concerned reasons as to why the adoption and implementation of PASs experienced problems or failed. Six potential problem areas were identified. First, senior fire department management by inconsistent use behaviorally displays a lack of commitment to PAS (Jackson, 1996). Management must be committed to the PAS, and support that commitment by consistently and properly using the system. Second, the PAS implementation is not supported by a comprehensive SOP covering how it is to be used (Markus, 1996; Pedigo, 1992; Schmidt, 1993). Third, the PAS is implemented without the thorough training of firefighters expected to participate in the system and/or the officers expected to operate the system (Jackson, 1996; Morris, et al., 1994; Schmidt, 1993). Fourth, for whatever reason, a PAS system is implemented which fails to meet NFPA criteria. Fifth, instead of the system designating and assigning accountability officers, the IC or safety officer at an incident is expected to operate/manage the PAS (Cowardin, 1992; Parks, 1994; Weston, 1997). Sixth, firefighters perceive that the PAS is compromising aggressive fire attacks (Elliott, 1994; Parks, 1994). The PAS must be

relatively easy to use (Bryson, 1992) and not hinder fireground operations. PAS adoption plans should address these problem areas.

As noted in the beginning of this literature review, the fire service has and is demonstrating significant concern over firefighter safety. In terms of PASs, articles and research papers react to or support the criteria found in NFPA 1500 (1992) and NFPA 1561 (1995). While some maintain that personnel accountability can be achieved in terms of firefighter safety by implementing a strong ICS model, most fire professionals support the position of NFPA 1561 (1995) that firefighter safety concerns demand that a PAS be considered as a integral component of any effective ICS model. Although many fire departments have yet to adopt a PAS, surveys indicate that more and more departments are adopting PASs and attempting to comply with NFPA requirements. The types of PASs being used include a barcode system, some type of nametag system, or a version of the Seattle passport system. Because it meets NFPA standards, is the most flexible and adaptable system, and is expandable and suitable for use within regional and/or large incident parameters, the passport model (as locally or regionally customized) appears to be becoming the dominant PAS. As fire departments have implemented PASs, six mistakes or problems with program implementation have been identified. A fire department's plans for adopting and implementing a PAS should strive to avoid these mistakes.

Given the information identified and gained during the literature review, the FSSC decided to proceed with the selection, adaptation, and implementation of a new PAS for the Mat-Su Borough's Public Safety Department.

PROCEDURES

In order to adequately address the research questions and reach the goal of completing a PAS implementation plan, the project's procedures were divided into two phases: The assessment phase using descriptive and evaluative methods, and the planning phase using action methodology to prepare to implement a new PAS throughout the Mat-Su Borough.

The Assessment Phase

In the assessment phase, the following research questions were addressed:

1. What are the positions regarding appropriate and functional PASs for the fire service?
2. What are the major PASs currently available, and which ones are NFPA compliant?
3. Can one of the available PASs be adopted or modified for adoption within the Mat-Su Borough, or will the borough require the design of a new system?

The objective of this phase was, after a thorough review of information and research on accountability systems, to select a PAS for adoption.

The Planning Phase

The objective of the planning phase was to use the Change Management Model's Phase II, *Planning* (NFA-SMOC, 1996), to prepare to implement the new PAS. In an attempt to avoid the problems experienced by some fire departments in implementing a PAS and to prepare an effective implementation plan, the FSSC proceeded through each step of Phase II. Those steps were (NFA-SMOC, 1996):

1. Systematically examine the forces for and against the change.
2. Select personnel to develop a vision of the organizational change.
3. Envision the organizational change to be implemented.

4. Set and evaluate target goals and objectives of the envisioned change.
5. Assess and select the method(s) of change to be employed.
6. Assess and select techniques to promote the change.

RESULTS

The Assessment Phase

The initial research question explored during the assessment phase was: What are the positions regarding appropriate and functional PASs for the fire service? Two different viewpoints were discovered during the literature review. A minority of fire service professionals believes that firefighter safety can be adequately addressed through supervisors in an aggressive ICS model (Brittain, 1993; Coleman, 1997; Cowardin, 1992; Murray, 1993; Peterson, 1990). In contrast, the majority of fire professionals advocates that a PAS must be added as a component of a comprehensive ICS model (Bryson, 1992; Carlson, 1992; Cobb, 1996; Gray, 1996; Jarboe, 1994; Jarboe and McBride, 1992; Loflin, 1997; Pedigo, 1992; Pollpeter, 1995; Routley, Bush, and Stern, 1996).

The reliance on supervisors for personnel accountability rests on crews remaining intact during an incident until rotated out of the area of risk (Coleman, 1997; Cowardin, 1992). Every one of twenty-two students in the Management of Change Course during August 1997 reported that initial crews were often split or individually rotated for a variety of reasons throughout incidents. This reported lack of crew integrity matched the pattern involving paid-on-call personnel known to be the norm in the Mat-Su Borough. Consequently, remaining with and attempting to provide for accountability through

supervisors solely within an aggressive ICS model was rejected as an option. The FSSC opted to identify a PAS to be included in the NIIMS ICS model.

The second research question explored during the assessment phase was: What are the major PASs currently available, and which ones are NFPA compliant? The barcode model, the nametag model, and the passport model represented the three categories of accountability systems currently being used by the fire service (Baldanza, 1994; Cobb, 1996; Colestock, 1994; Forsberg, 1993; Gee, 1993; Hewitt, 1993; Morris, et al., 1994; Noto, 1994; Rose, 1994; Schmidt, 1993; Schnaidt, 1995; Seng, 1995; SOP, 1995; Weston, 1997). The passport PAS model most easily meets the NFPA standards (Gee, 1993). However, the barcode PAS model (Schnaidt, 1995) and nametag PAS model (Hewitt, 1993) can also be NFPA standard compliant. With three PAS options that could meet NFPA standards, the FSSC proceeded to the final research question.

The third research question explored during the assessment phase was: Can one of the available PASs be adopted or modified for adoption within the Mat-Su Borough, or will the borough require the design of a new system? To answer this research question, criteria had to be developed to assure an adequate evaluation. Assuming that the PAS would be a component of an NFPA compliant ICS model, from research and articles by Bryson (1992), Gee (1993), Jarboe and McBride (1992) and Morris, et al. (1994), the FSSC developed the following criteria to facilitate PAS evaluation:

1. The PAS must identify all personnel operating at an incident.
2. The PAS must identify the members of each crew and all supervisors (e.g., group supervisor or team leader).

3. The PAS must be flexible by allowing for on-scene crew formation, the splitting of initial crews, and the assignment/rotation of individuals to and from existing crews.
4. The PAS must identify the location and assignment of each crew or supervisor within the hazard zone of an incident.
5. The PAS must identify when a firefighter, crew or supervisor is delayed or missing from an assignment so that a search can be initiated.
6. The PAS must be simple enough to use so that it can be implemented without delaying aggressive firefighting efforts.
7. While the PAS must be usable and appropriate for routine incidents, it must be expandable and adaptable to the unusual, large and/or extended incident.
8. The PAS must possess the potential for regional adoption, including the ability to incorporate fire personnel (career, paid-on-call, and volunteer) from several agencies.

When comparing the three PASs against these eight criteria, the superiority of the passport model became apparent. At least one version of each system could identify all personnel at an incident, initial crew membership, initial hazard zone crew assignments, time parameters, and could be implemented without significant delays in firefighting efforts. However, when considering incident progression parameters, the barcode and nametag systems lacked flexibility and adaptability in comparison to the passport system. Rapidly changing crew memberships and/or assignments overwhelmed the data entry capability of the barcode system, and changing conditions also defeated the ability to track crew membership and hazard zone location with nametags. With the use of accountability officers, the passport system did accommodate changing crew memberships, changing crew assignments, and changing incident parameters. The passport model is also the easiest to use

in terms of incorporating emergency service personnel from several agencies (Gee, 1993; Elliot, 1994; Forsberg, 1993; Markus, 1996; Noto, 1994).

Since the passport model meets NFPA requirements (Gee, 1993), since it satisfies each of the eight criteria developed to assess PASs, and since it permits adaptation to local needs (Morris, et al., 1994; Rose, 1994), the FSSC decided to adopt and adapt it for use within the Mat-Su Borough.

The Planning Phase

With the administration's directive to adopt an NFPA compliant PAS for the Mat-Su Borough, and with the selection of the passport model for adoption and implementation, the FSSC opted to use the *Planning* phase of the Change Management Model (NFA-SMOC, 1996) to prepare an implementation plan.

Systematically Examine the Forces For and Against the Change

In 1993, the borough administration cancelled the plans of Public Safety Department to initiate a process to adopt an NFPA compliant PAS. Perhaps some paid-on-call responder frustration over the number of new borough-wide standards and programs introduced since 1990 as expressed to elected officials played a part in the new PAS cancellation. Although weaknesses in the total reliance on supervisory personnel for personnel accountability were documented, and while officers and firefighters knew from experience that the old system was not working, the forces against a PAS change were dominate. After the experience of the Miller's Reach Interface Fire in 1996, the forces against a change to a NFPA compliant PAS ceased to exist in the Mat-Su Borough. The failure of the old PAS model was too massive and too widely known to leave it in place. Both the borough administration and paid-on-call personnel favor adopting an NFPA compliant PAS.

Select Personnel to Develop a Vision of the Organizational Change

With a limited career-line staff of six and over 400 paid-on-call personnel scattered in communities within an 1100 square mile area, standard personnel strategies for envisioning change are not appropriate. With most personnel being essentially volunteer, it is relatively easy for these personnel to by-pass the career staff and the decision-making system, and to complain to elected officials if they are against a proposed change (The author suspects this occurred in terms of the proposed PAS change in 1993).

To limit the ability of volunteer personnel to hinder change or advocate inappropriate change, the personnel strategy for envisioning change within the Public Safety Department was originally developed and implemented in 1990. While a change idea may come from any person or level within the Public Safety Department, most come from the career staff. Whatever the source of the proposed change, a conceptual endorsement must be agreed to in a meeting between the senior career staff and the Mat-Su Fire Chiefs Association (paid-on-call chiefs). After the conceptual endorsement, project development or policy formulation is delegated to the FSSC composed of service training and safety officers. Once the FSSC completes its work, the drafted project or policy returns to another joint meeting between the senior career staff and Mat-Su Fire Chiefs Association for review and adoption.

This strategic model for envisioning change is fundamentally one of consensus with the opportunity for input being provided to most levels of the organization. While the process often moves at a slow place with meetings and work sessions during the evenings once or twice a month over many months, the consensus model has produced system-wide acceptance and compliance with NFPA training standards, ICS and safety policies, SOPs, officer position-descriptions and standards, equipment and apparatus standards. When wide

agreement and support is achieved involving most, if not all, levels of the Public Safety Department, complaints about new policies or programs to elected officials are easy to counter. This consensus model incorporating paid-on-call personnel to envision change has moved emergency services in the Mat-Su Borough in a consistently positive direction while reducing the impact of fractional politics common to paid-on-call organizations.

Envision the Organizational Change to be Implemented

The articulated vision that has directed the changes since 1990 in emergency services within the Public Safety Department is *"Volunteer Emergency Service Professionals."* The linkage between professional standards and paid-on-call personnel connoted in this statement has facilitated the support and acceptance of positive changes throughout the emergency services system. While there are several, one colliery slogan pertains to the issue of firefighter safety, "*No dumb injuries."*

A lack of personnel accountability has never been linked to a firefighter injury within the Mat-Su Borough. This undoubtedly played some role in the scuttling of plan for a new PAS in 1993. From the perspective of many volunteers and elected officials since there had been no injuries due to an inadequate PAS, change to a more comprehensive PAS was not desirable. Although no firefighter injury was even remotely linked to the inadequate PAS during the Miller's Reach Fire, the complete breakdown of the old PAS and the documented number of near misses reflective of the breakdown in accountability during that urban interface fire changed the perspective of the former PAS change opponents. A failure to change is now viewed as *dumb*. The FSSC and Chiefs Association merely had to point the lack of logic in continuing with a PAS known to be inadequate in order to get the paid-on-

call personnel to view the implementation of a comprehensive new PAS as a *professionally desirable goal.*

Set and Evaluate Target Goals and Objectives of the Envisioned Change

The FSSC was assigned the task of selecting/developing a new PAS and coordinating its implementation at a meeting between senior career staff and the Mat-Su Fire Chiefs Association in June 1997. Career staff were directed to gather information about PASs. FSSC work on the project began in October.

At its meeting in October, the FSSC received copies of articles and reports on accountability systems obtained at the National Fire Academy's Learning Resource Center. Target goals and one objective were established, and the Chiefs Association endorsed these that same month. Target goals were:

1. Select a new PAS, develop a comprehensive SOP covering its use, and develop an implementation plan during the fall 1997.
2. Present the PAS and associated materials to the Chiefs Association and Public Safety Staff by December 1997. Obtain an endorsement at January 1998 meeting.
3. Purchase and/or make PAS materials during February and March 1998. With 22 stations, over 75 pieces of apparatus (engines, tenders, ambulances, rescue and brush vehicles), and over 400 paid-on-call personnel, all PAS materials must be ready prior to initial training and implementation.
4. During April, provide training on the new PAS to chief officers and certified instructors who will be involved in presenting the PAS at local services throughout the borough. PAS materials for each local service will be distributed, along with a calendar of implementation dates and training events. Also, the training program to

prepare personnel to function as accountability officers will be completed, and materials will be prepared so that the PAS will be ready for all entry level (fire and EMS) training programs. All training programs will address a common firefighter fear that the PAS will hinder aggressive fire attacks, and demonstrate how this is not a concern.

5. During May and June, chief officers and instructors will train all paid-on-call personnel on the components and operation of the new PAS. A minimum of two training programs will be presented for potential accountability officers. The PAS will be added to all entry level training programs.
6. July and August will be the trial implementation period. In addition, the new PAS will be used in two regional training simulations on interface fires.
7. During September, any materials or SOP revisions will be completed.
8. October will be the final adoption and implementation meeting between the FSSC, career staff, and Fire Chiefs. Make-up training sessions will be offered as needed.
9. November 1, 1998 will be the target date for the comprehensive PAS implementation.

While some dates may require adjustments, the objective is to have a fully NFPA compliant PAS in effect and routinely used by the end of 1998. The first two target goals have been reached. The FSSC has selected the passport accountability system as the one to adapt to the Mat-Su Borough and a comprehensive PAS SOP (See Appendix B) has been completed. The Fire Chiefs Association and Public Safety Staff at a January 1998 meeting approved the PAS, the SOP, and the implementation plan. The Public Safety Department is in the process of purchasing and making passport system materials.

Assess and Select the Method(s) of Change to be Employed

The primary method of change for introducing the passport system as the PAS for the Mat-Su Borough is structural within the NIIMS ICS model. This approach directly links this change effort to the NFPA 1561 (1995) requirement that a PAS must be a component of an incident management system. For emergency scene activities, both complexity and coordination issues within the ICS model are changed.

Rose (1994) and Morris et al. (1994) urge adopters of the Seattle passport system to modify and adapt it to local needs. In making this structural change to the ICS model, the FSSC made two major changes in the Seattle passport system (See Appendix B). First, for any incident deemed by the IC to merit full implementation of the passport system (Labeled Level II), the accountability officer becomes a command staff position within the NIIMS ICS model. This command staff inclusion both separates the accountability functions from those of the safety officer and IC, and underscores the importance of the position. Second, the use of magnetic/velcro helmet shields from the Seattle passport system and strongly favored by Phoenix (Morris, et al., 19994) was eliminated. With personnel arriving by private vehicles and the frequent splitting/changing of crews at emergencies within the Mat-Su Borough, the use of helmet shields as a crew membership identifier would be confusing. The FSSC elected to work for passport tracking accuracy, but dropped the visual aid of helmet shields.

When clearly linked to a modification of the NIIMS ICS model—a model in which all have been trained over the last eight months—the FSSC anticipates that personnel will find the PAS both understandable and acceptable.

Assess and Select Techniques to Promote the Change

The informational openness and sharing started in June 1997 has laid the foundation for acceptance of the new PAS. The selling of the new PAS to paid-on-call personnel is largely accomplished. The failure of the old PAS is widely known. The involvement of paid-on-call fire chiefs, training officers and safety officers from the beginning as members in the new PAS development effort assured widespread awareness that the change is coming. The already drawn and accepted linkages to the visions involving professionalism and safety have functionally eliminated any significant opposition to the new PAS change.

The issue that remains critical concerns personnel being aware of the training and implementation steps that will be occurring over the next several months. Once the new PAS materials are obtained and prepared, the FSSC will distribute a calendar of initial and final PAS implementation dates, training activities, local service training dates, and planned simulations. Personnel will then be able to anticipate upcoming events, and will be able to plan their participation. Should some persons miss the PAS training at their station, they will be able to attend a training session in another area.

After reviewing accountability systems and selecting the passport model, the FSSC used the *Planning* phase of the Change Model to adapt and prepare the passport system for implementation throughout the Mat-Su Borough. With the approval by the Fire Chiefs Association and Public Safety Staff in January 1998 of the new PAS and implementation plan, efforts are currently being directed toward *Implementation*.

DISCUSSION

In the decision to take the Seattle passport system and modify it for use as the PAS in the Mat-Su Borough, the results of this study closely parallel the trend discovered in PAS adoptions during the review of the literature. When fire departments review and consider the different PAS options prior to selecting a PAS, the choice appears to be the passport system (Elliot, 1994; Forsberg, 1993; Gee, 1993; Markus, 1996; Morris, et al., 1994; Noto, 1994; Rose, 1994; Turner, 1994). One consistent reason for the adoption of the passport model is its compliance with NFPA 1500 and NFPA 1561 (Gee, 1993), but another frequent reason appears to be the flexibility and adaptability of the passport model (Elliott, 1994; Forsberg, 1993; Markus, 1996; Noto, 1994). This research like similar projects found that the ability to customize the passport model to local needs was the deciding factor in favor of its adoption.

For the Mat-Su Borough's Public Safety Department, the ability to tailor the passport model was crucial. With a full range of fire, EMS and rescue services located within small communities spread over an 1100 square mile area, and with a reliance upon paid-on-call personnel to provide service with very limited career line-staff support, the borough needs a system which can be regionally adapted. The PAS for the borough must handle personnel arriving in private vehicles as well as apparatus, it must permit crews to be formed on location, and it must allow crews to be split and individuals to be rotated. The passport system is the most flexible and adaptable PAS for meeting these needs. It has the additional advantage of being expandable for the truly large and/or unique incident.

During the literature review and assessment phase of this research project, the information gained allowed the FSSC to select the passport model as the PAS for the Mat-Su Borough. However, the analyses and decisions required during the planning phase helped

prepare the Public Safety Department to implement the new PAS. Because of the author's involvement in the EFO program, the FSSC elected to use the *Planning* component of the Change Model in preparations for implementing the new PAS throughout the borough. The use of a complete planning model prior to implementation led the FSSC to systematically prepare for the new PAS. By using the planning process and considering several of the problems reported with PAS implementations (Bryson, 1992; Cowardin, 1992; Elliott, 1994; Jackson, 1996; Markus, 1996, Morris, Et al., 1994; Parks, 1994; Pedigo, 1992; Schmidt, 1993; Weston, 1997), the Public Safety Department is avoiding common PAS errors and can anticipate an effective implementation process.

During the planning process, the FSSC was forced to review several historical factors pertaining to the cultural and decision-making processes within the paid-on-call emergency services system of the Mat-Su Borough. The linking of the proposed new PAS by the FSSC to the positive cultural vision of *professionalism* has helped prepare personnel for the new PAS. Involving chiefs, training officers and safety officers from all services throughout the borough in the PAS research and adoption process has created an awareness of upcoming change. The involvement at all levels is already creating a sense of PAS ownership among the paid-on-call personnel. Without the steps in the planning process, the tying of the new PAS to already accepted cultural and decision-making factors might have been ignored or assumed. Explicit awareness has facilitated acceptance among the chiefs, and is expected to aid with firefighter acceptance when the new PAS is presented. As a result, the lack of PAS commitment among senior officers reported by Jackson (1996) should not be a problem within the Mat-Su Borough as the new system is implemented.

When establishing target goals and objectives within the planning process, other PAS implementation problems were addressed. A lack of a supporting PAS SOP was reported as a concern by Markus (1996), Pedigo (1992) and Schmidt (1993). Therefore, a comprehensive SOP was written to explain and proscribe the daily use and implementation of the new PAS. To avoid the problem of PAS implementation without the proper training of personnel (Jackson, 1996; Morris, et al., 1994; Schmidt, 1993), extensive training preparation and delivery efforts are planned. Instead of overloading the IC or safety officer with PAS operational responsibilities (Cowardin, 1992; Parks, 1994; Weston, 1997), the accountability officer is made a separate command staff position. The common firefighter concern that a PAS will hinder aggressive fire attacks (Elliot, 1994; Parks, 1994) will be specifically addressed in training programs.

Because ICS directly impacts the delivery of emergency services, any structural change in the incident management system will be closely watched by emergency services personnel. Personnel accountability systems as envisioned by NFPA 1500 and NFPA 1561 structurally modify incident management. Historically, the fire service has reacted to any change impacting the delivery of emergency services as a potential, if not actual, threat. A change of this type must be undertaken after serious preparation even if an organization has a proactive culture. The assessment phase selected the new PAS. The planning phase customized the passport model for the regional paid-on-call system of the Public Safety Department, and is preparing the new PAS for implementation. The two phases combined have prepared the Public Safety Department for a systematic, orderly, and effective implementation effort. The new PAS can be expected to positively impact and reinforce the cultural goal of *professionalism* within the Public Safety Department.

RECOMMENDATIONS

This research project began as a response to the problem of an inadequate personnel accountability system and its known deficiencies for the safety of this organization's personnel. To address this problem, the purpose was to replace the deficient approach with an NFPA compliant PAS. Goals were to select a PAS for adoption, to modify the PAS as necessary for use with a borough-wide paid-on-call system, to develop a SOP for training and implementation, and to complete the PAS implementation plan. The problem has been addressed and the goals have been achieved. As the new PAS is implemented during the remainder of 1998, the purpose of having an NFPA compliant PAS in place throughout the Mat-Su Borough will be attained.

For other fire departments contemplating changing from a deficient PAS or adopting a PAS for the first time, the processes employed during this research project may prove useful. First, carefully review the available PAS options and then make a PAS choice. While this project selected to modify the Seattle passport system, that decision grew from comparisons of options against criteria reflective of this borough's paid-on-call emergency services system. PAS selection should reflect careful criteria comparisons. Second, the planning of the change prior to attempting implementation is critical to achieving a positive change result. Those who report problems or failures with PAS implementations due to little if any PAS training, no SOP on the PAS, firefighter fears, the IC as the accountability officer, or lack of management support (Bryson, 1992; Cowardin, 1992; Elliott, 1994; Jackson, 1996; Markus, 1996, Morris, Et al., 1994; Parks, 1994; Pedigo, 1992; Schmidt, 1993; Weston, 1997), in the opinion of this researcher are most often reporting a lack of change planning. Both the selection and planned implementation of a PAS are important.

The customization of a PAS for local or regional fire service needs must be addressed by a fire department planning a PAS change. A PAS that functions well within a large metropolitan department of career personnel is likely to require adaptation to a more rural department with paid-on-call personnel. The passport system is designed to permit customization (Rose, 1994). This adaptive flexibility is likely to make it the dominant passport model as more fire departments move toward NFPA compliance.

Two significant passport adaptations were made during the planning process used in this project. The decision to make the accountability officer a command staff position may be a functional choice for any fire department adopting a PAS. While not formally creating the command staff position (Morris, et al., 1994), Phoenix has made the accountability officer a staff function. The responsibilities and functions of the person managing the accountability system at many incidents are too complex and too important to add to another ICS position. The separate position of an accountability officer as a member of the command staff should be seriously considered.

In contrast, the decision to not use the helmet shields from the passport system as crew identifiers is likely a poor choice for many fire departments. Ease of crew visual identification and unit pride make the use of helmet shields within the passport system very popular (Morris, et al., 1994). If crews remain largely intact within most of a fire service's operations, the helmet shields are probably a valuable component of a PAS. In the case of the Mat-Su Borough where initial crews seldom remain intact, helmet shields were dropped. The degree or extent of crew integrity should be carefully reviewed prior to making a decision on the role helmet shields in a service's PAS.

Firefighters have been killed or severely injured due to a lack of personnel accountability at emergency incidents. Whether or not one agrees with the content of NFPA 1500 (1992) and NFPA 1561 (1995), proactive fire service managers must address the accountability problem. This research project reflects one effort to find, modify, and develop a PAS for a primarily paid-on-call system covering a large regional area. It is reflective of an organizational commitment to professionalism and firefighter safety. There may be disagreements over the best PAS and its functional parameters. However, there should be no disagreements over safety and the need to account for personnel. In essence, we owe our personnel accountability solutions.

REFERENCE LIST

Baldanza, M.V. (1994, April). British accountability system. *Fire Engineering*, 147, 52-53.

Brittain, R. (1993, November). A study of consistent application of personnel accountability on the fireground. *Applied research paper completed as part of the National Fire Academy's Executive Fire Officer Program.*

Brunacini, A.V. (1985). *Fire Command.* Quincy, MA: National Fire Protection Association.

Bryson, D.B. (1992, November). Firefighter accountability: A guide to implementing NFPA 1561 in volunteer departments. *Applied research paper completed as part of the National Fire Academy's Executive Fire Officer Program.*

Carlson, G.P. (1992, August). Personnel accountability. *Fire Engineering*, 145, 10-11.

Cobb, R. (1996, June). Accountability on the fireground. *Firehouse*, 21, 66-68.

Colemen, J.F. (1997, December). Accountability and the incident management system. *Fire Engineering*, 150, 56-59.

Colestock, M.S. (1994, January). Personnel accountability. *Fire Engineering*, 147, 10-15.

Cowardin, D.H. (1992, December). Practical ICS—accountability: New idea, or old ground revisited? *American Fire Journal*, 44, 16-17.

Diaz, J.R. (1995, February). A study of personnel accountability. *Applied research paper completed as part of the National Fire Academy's Executive Fire Officer Program.*

Elliott, E.E. (1994, May). Personnel accountability system as implemented by the Chesapeake fire department. *Applied research paper completed as part of the National Fire Academy's Executive Fire Officer Program.*

Forsberg, P. (1993, November). Broward county: Twenty-seven different departments, one personnel accountability system. *Applied research paper completed as part of the National Fire Academy's Executive Fire Officer Program.*

Gray, G. (1996, September). Emergency scene personnel accountability systems. *Applied research paper completed as part of the National Fire Academy's Executive Fire Officer Program.*

Gee, D.A. (1993, October). Implementation of a fireground personnel accountability system. *Applied research paper completed as part of the National Fire Academy's Executive Fire Officer Program.*

Hewitt, J.A. (1993, September/October). Personnel accountability system tracks fireground crew. *Minnesota Fire Chief*, 30, 12-13.

Jackson, M.D. (1996, December). Change management: A study of why the range complex fire department isn't using its accountability system. *Applied research paper completed as part of the National Fire Academy's Executive Fire Officer Program.*

Jarboe, T. (1994, April). 10 common fireground mistakes. *Fire Chief*, 38, 38-40.

Jarboe, T., & McBride D. (1992, July/August). Personnel accountability system. *The Voice,* 21, 15-18.

Loflin, M.E. (1997, February). Safety means learning from our mistakes. *Fire Chief*, 41, 60-63.

Markus, S. (1996, May). An analysis of a personnel accountability system for urban wildland fires. *Applied research paper completed as part of the National Fire Academy's Executive Fire Officer Program.*

Morris, G.P., Brunacini, N., & Whaley, L. (1994, April). Fireground accountability: The Phoenix system. *Fire Engineering*, 147, 45-61.

Murray, S. (1993, January). Personnel accountability system. *Applied research paper completed as part of the National Fire Academy's Executive Fire Officer Program.*

National Fire Academy (1996, May). *Strategic Management of Change: Student Manual*. Emmitsburg, MD: United State Fire Administration.

National Fire Protection Association 1500 (1992). *Standard on Fire Department Occupational Safety and Health Programs.* Quincy, MA: NFPA.

National Fire Protection Association 1561 (1995). *Standard on Fire Department Incident Management System*. Quincy, MA: NFPA.

National Fire Service Incident Management Consortium (1993). *Model Procedures Guide for Structural Firefighting*. Stillwater, OK: Fire Protection Publications.

Noto, S. (1994, March). Developing a county wide personnel accountability system. *Applied research paper completed as part of the National Fire Academy's Executive Fire Officer Program.*

Parks, J.S. (1994, May). Firefighters utilization of the personnel accountability system. *Applied research paper completed as part of the National Fire Academy's Executive Fire Officer Program.*

Pedigo, G. (1992, September). Developing a personnel accountability system. *Applied research paper completed as part of the National Fire Academy's Executive Fire Officer Program.*

Peterson, W. (1990, January/February). Personnel management on the fire ground. *Chief Fire Executive*, 1, 30-31.

Pollpeter, G.L. (1995, September). Evaluation of personnel accountability systems in the fire service of the United State of America. *Applied research paper completed as part of the National Fire Academy's Executive Fire Officer Program.*

Rose, S.E. (1994, April). Passport accountability system—why and how? *Fire Engineering*, 147, 48-49.

Routley, J.G., Bush, R., & Stern, J. (1996, July). Firefighter fatalities: What the fire service can do to prevent line-of-duty deaths. *Firehouse*, 21, 50-52 & 134.

Schmidt, A.A. (1993, May). Establishing a personnel accountability system. *Applied research paper completed as part of the National Fire Academy's Executive Fire Officer Program.*

Schnaidt, B. (1995, January). Barcodes assure fireground accountability. *Fire Chief*, 39, 110-113.

Seng, W.J. (1995, June). Personnel accountability systems: Are they needed? *Applied research paper completed as part of the National Fire Academy's Executive Fire Officer Program.*

SOP: Personnel and unit accountability systems (1995, November). *FDSOA Healthy & Safety*, 6, 12-15.

Turner, G.A. (1994, June). Personnel accountability. *Applied research paper completed as part of the National Fire Academy's Executive Fire Officer Program.*

Weston, W.N. (1997, April). Personnel accountability issues: An update from Vermont. *Applied research paper completed as part of the National Fire Academy's Executive Fire Officer Program.*

Appendix A

NIIMS INCIDENT COMMAND SYSTEM

I. During 1997, as one result of the Miller's Reach Fire, the Governor signed an Executive Order mandating that the National Interagency Incident Management System (NIIMS) ICS model be used in Alaska. **The NIIMS model is very similar to the ICS system currently in use throughout the Mat-Su Borough. Per Mat-Su Chiefs & Public Safety Dept, NIIMS has been adopted. The following is a brief explanation of the similarity & differences:**

II. Incident Command (IC). The purposes, functions, responsibilities & authority of Command remain the same.

A. **Command staff** personnel of Safety, PIO & Liaison are the same. Each is called an "**Officer" (e.g., Safety Officer).**

B. **General staff** positions and functions remain the same, each is managed by a "**Section Chief."**

1. **Sections are:** Operations, Planning, Logistics, and Finance/Administration.

III. **Divisions/groups versus Sectors:**

A. **Divisions** are the same as **Area Sectors**. Divisions have responsibilities within a defined geographic area. In terms of a structure:

1.	Exterior	*Division A	=	Front Sector
		*Division B	=	Left Sector
		*Division C	=	Rear Sector
		*Division D	=	Right Sector
2.	Interior	*Division 1	=	Interior or Sector 1
		*Division 2	=	Interior or Sector 2
		*Division 3	=	Interior or Sector 3
		*Subdivision 1	=	Basement Sector

B. **Groups** are the same as **Function Sectors**. Groups have specific functional assignments. In terms of a structure fire:

1.	Water Supply Sector	=	Water Group
2.	Rescue Sector	=	Rescue Group
3.	Ventilation Sector	=	Vent Group
4.	Rehab/medical sector	=	Rehab/medical group
5.	Haz. Mat. Sector	=	Haz. Mat Group

C. **Divisions/groups/sectors are managed by "Supervisors."**

IV. Within **Divisions & Groups**, there are **three levels of resources:**

A. **Single Resource** = An engine, a tender, a C-V, a brush unit, a medical team.
(Managed by Crew Boss)

B. **Strike Team** = A grouping of **one kind** of resource; a strike team of 5 engines, a strike team of tenders, a strike team of ambulances.
(managed by Leader)
(common communications)

C. **Task Force** = A grouping of **mixed kinds** of resources; a task force of 2 engines, a brush unit, a tender & C-V; a task force of 3 ambulances, one rescue & one C-V.
(Managed by Leader)
(Common communications)

V. For **large-scale incidents**, one additional level of organizational structure of provided = **Branch.** Branches can be **functional or geographic (area).** For the most part, branches are used due to the need to limit the span-of-control **OR** there is a need to organize based on a functional structure.

A. **Geographic (area) branches:**
1. Example one: North Branch, South Branch.
2. Example two: Branch I, Branch II, Branch III

B. **Functional branches:**
1. Example one: Fire Branch, Air Ops. Branch
2. Example two: Fire Branch; Medical Branch

C. **Branch managers are called Directors.**

VI. The NIIMS model -

IC (Command & Officers of Command Staff)
Sections (Potentially Four Section Chiefs)
Branches (Directors)
Divisions/Groups (Supervisors)
Strike Teams/Task Forces (Leaders)
Single Resource (Crew Boss, Squad Boss, Foreman)

VII. The three Command Staff positions that can be established to assist the IC are:

A. **Safety Officer** monitors hazardous and unsafe situations, and develops measures for assuring personnel safety. The Safety Officer has emergency authority to stop and/or prevent unsafe acts.
1. **Mat-Su Borough Policy**: While the IC can delay the appointment of a Safety Officer due to incident factors & priorities, this ICS staff position **must** be filled during structure fires, extended attack wildland or urban interface fires, and many other extended attack operations.

B. **Information Officer,** when appointed, will be the point of contact for the media or other organizations seeking information directly from the incident. This position is rarely filled.

C. **Liaison Officer,** on large incidents, will be the primary contact for representatives (MEA, Red Cross) assigned to the incident to coordinate their agency's involvement.

D. **Accountability Officer(s)**, for Level II (large) incidents, the IC shall designate (from among trained & qualified personnel) an accountability officer as a command staff position to collect and track passports. The accountability officer may be located at the ICP, rehab, hot zone entry point, or structure entry point to facilitate tracking. For large or unusual incidents, the accountability officer may select assistants and form an accountability group.

1. For Level I incidents, the engineer(s) of hot zone entry point apparatus shall collect passports on location boards.]

*This material is being added here as part of the planned personnel accountability system implementation.

Appendix B

MAT-SU BOROUGH EMERGENCY SERVICES STANDARD OPERATING PROCEDURES

SOP 98-015: Passport Accountability System

July 1, 1998—Initial Implementation
November 1, 1998—Final Implementation

I. The policy of the Public Safety Department, Mat-Su Borough, is to promote and encourage safe practices while providing emergency services to the public. The ability to track and account for all personnel at an emergency scene is critical to insuring their safety, and the Public Safety Department will use the Passport System to as the method to account for individuals and teams operating at an emergency scene.

A. The Passport System shall be used to compliment the Incident Command System (ICS) and use of an Incident Safety Officer. It is expandable to include mutual aid companies and multiple alarm make-up companies.

B. The Passport System shall be implemented whenever the ICS system is required to be implemented. That is, whenever two or more emergency apparatus (minus command and support vehicles) are operating at an incident, Command shall be established and the Passport System shall be implemented.

II. Definitions.

A. Accountability Group: At large or unusual incidents, the incident's accountability officer may select assistants and form an accountability group. The IC must approve the formation of an accountability group.

B. Accountability Officer(s): For Level I incidents, the engineer(s) of hot zone entry point apparatus shall collect passports on location boards. For Level II incidents, the incident commander shall designate (from among trained & qualified personnel) an accountability officer as a command staff position to collect and track passports. The accountability officer may be located at the ICP, rehab, hot zone entry point, or structure entry point to facilitate tracking. For large or unusual incidents, the accountability officer may select assistants and form an accountability group.

C. Commander: A person assigned supervisory responsibility as Operations, Division/Group Supervisor, or Sector Officer.

D. Company: The basic response unit of emergency services within the Mat-Su Borough, generally consisting of a piece of emergency apparatus and the personnel responding in it.

E. Company Officer: The person riding in the right front seat of an emergency apparatus. This includes officers, acting officers, medics and firefighters. This person is assigned the responsibility to make-up the passport during an emergency response or anytime the emergency apparatus leave its station.

F. Emergency Apparatus: Includes all fire apparatus, rescue vehicles, and ambulances used to transport personnel to emergency incidents. When support or command vehicles are used to transport personnel to emergency incidents, they shall be classified as emergency apparatus.

G. Emergency Incident: Any incident involving the dispatch of emergency services within the Mat-Su Borough to deliver fire, medical, rescue or other forms of hazard control.

H. Incident Commander (IC): Within the ICS System, the person with overall command of the emergency incident.

I. Incident Command Post (ICP): Established location for the IC, command staff, and other necessary supporting activities.

J. Incident Termination: The conclusion of emergency services operations at the scene of an incident (termination of command).

K. Individual response: Individuals who may respond in personnel vehicles shall have a minimum of two name tags with them, either attached to their helmet or on their person.

L. Level I Incidents: Relatively small and routine incidents where the IC is confident of individual and crew tracking without the full implementation of the passport system.

M. Level II Incidents: Incidents of sufficient size or complexity where the IC designates an accountability officer as a command staff position and the passport system is fully implemented.

N. Location Board: Velcro covered boards (24" X 18") which may be located on the sides of apparatus, in or on command vehicles used as an ICP, or at an ICP where responding company officers or individuals can place passports and name tags. For Level I incidents, the location board shall be on the side of entry point apparatus. For Level II incidents, the IC or accountability officer shall designate location(s).

O. Nametag: A Velcro backed plastic tag with a member's name and designator. Nametags shall be color coded as follows:

White	-	Command Qualified Officers (includes training & experience requirements)
Red	-	Other Officers
Yellow	-	Firefighters, Engineers and Rescue Techs.
Blue	-	Medics

P. Other vehicles: Vehicles assigned to individuals shall have a passport for the assigned individual.

Q. Passport: An approximately 2" X 4" board made of Velcro and plastic used to identify individuals, teams and companies.

1. Primary Passport. White passport kept by the Company Officer on their person until given to the IC, accountability officer, or placed on an Incident Location Board.
2. Back-up Passport. Red passport left on the officer's door of the emergency apparatus or on the dashboard of command, support or other individually assigned vehicles.

3. Reserve Passport. Green passport kept in station for use in case of another passport being lost, multiple alarms, or extremely large incident.

R. Passport System: A procedure using name tags, passports, locations boards, and status boards to account for the assignments of commanders, companies, teams, and individuals at an emergency incident.

S. Passport System Make-up Kit: A kit designed to supplement or expand the Passport System at large incident, and to provide materials for immediate temporary replacement of lost or damaged system materials. Make-up kits shall be carried in command vehicles.

T. Risk Zones.

1. Hot Zone: Established by the IC as the area of significant risk. Passport system may be used to track teams/individuals, assignments, and locations within the Hot Zone. For example, the rule-of-thumb for structure fires identifies the Hot Zone as the structure and 25 feet on all sides of the structure.
2. Warm Zone: Incident operational area, including all emergency apparatus and equipment. Passport system can be used to track the presence of all personnel operating within the Warm Zone.
3. Cold Zone: Area beyond (outside of) the warm zone.

U. Roll Call: A poll of all teams, companies and individuals at an emergency incident to account for all personal operating at the incident or within the Hot Zone.

V. Service Identifier: The designator of the emergency apparatus shall be printed on the upper right hand corner of the passport. Examples include E651, R11, WS-Amb1.

W. Status Board: A hard plastic board with Velcro attached. Used by the IC, an accountability officer, or other commanders to hold passports of assigned teams, companies, individuals or units, and as a location for operational notes.

X. Station Officer: The officer responsible for the maintenance and operation of a fire station.

Y. Team: A group of two (2) or more personnel who work together and are responsible for each other's safety.

Z. Team Leader: The officer, firefighter or medic in charge of a team or company.

AA. Velcro Pad: A permanently attached Velcro strip or sheet used to hold Passports and Name Tags as defined in this document.

III. Responsibility.

A. The IC and commanders at an emergency incident shall use the Passport System to account for those sectors, divisions, groups, companies, and teams within their direct span-of-control as defined in this document.

B. Company Officers, Sector Officers, and Division/Group Supervisors are responsible for personnel within their span-of-control. Team leaders are responsible for the members of their team.

C. Commanders, Sectors, Division/group supervisors, Team leaders, and firefighters shall be aware of the physical condition of assigned members. All members shall use the command structure to request the relief and reassignment of fatigued or injured companies, teams, and individuals.

D. Team Leaders and firefighters are responsible and accountable for their own safety and the safety of their team members. Team members shall maintain a constant awareness of the position and function of all members working with them within the Hot Zone.

1. Team members must always be in contact with each other through one of the following:
   (a) Voice (not by radio)
   (b) Visual
   (c) Touch
2. Exception: Radio or phone contact is acceptable for command officers, lobby-control teams, etc. where awareness of position and/or function is known by the remainder of the team or command structure.
3. Members shall stay together as teams when inside the hot zone until incident termination or the IC reduces individual tracking due to reduced risk. If a member of a team experiences trouble, the other member(s) shall immediately provide help, call for help, or request assistance as necessary to aid the firefighter in trouble.

E. Company officers are responsible for collecting nametags and completing the primary and back-up passports whenever the emergency apparatus leaves the station for an emergency response, training or any other reason.

1. Company officers are responsible for transferring their primary passport to the location board, to the IC or accountability officer (as appropriate) upon arrival at an emergency scene. The back-up passport remains with the emergency apparatus.

F. Station officers shall maintain enough materials in station to support the passport system as defined in this document. Station officers shall assure that all emergency apparatus normally parked at their stations have passport-holding Velcro strips mounted on the right front seat door or on the dashboard in front of the right hand seat. They shall assure that the primary and back-up passports are appropriately mounted and available in all emergency apparatus.

1. For vehicles assigned to individuals, that individual is responsible for maintaining their passport within the vehicle.

G. All emergency responders as responsible for obtaining six (6) name tags with their name and designator (as appropriate). Nametags will normally be stored under the rear brim of their helmet or on the top inside of their helmet. Personnel without helmets (e.g. some medics) are mandated to carry a minimum of two nametags with them anytime they respond.

1. For those responding in emergency apparatus, they shall give two nametags to the company officer before or during the response or anytime they are riding in the apparatus.

2. For those responding in command or support vehicles, they shall provide the company officer two nametags before or during the response or anytime they are riding in the vehicle.
3. For those individuals with as assigned vehicle who normally respond in that vehicle, they are responsible for completing their own passport. They are responsible for appropriately transferring that passport to the location board, to the IC or accountability officer as appropriate.
4. For any person arriving at an emergency incident by POV, they are responsible for turning in their nametag at the location board, to the IC or accountability officer (as appropriate).

IV. Passport System.

A. The Passport System uses Name tags, Primary Passports, Back-up Passports, Locations Boards, Status Boards, and (when necessary) make-up kits.

B. Passports are a three-part 2" X 4" board of plastic and Velcro.
1. The top portion contains the service identifier for that emergency apparatus. The designator of the emergency apparatus shall be printed on the upper right hand corner of the passport. Examples include E24, R31, BL-Amb1.
2. The middle portion holds the name tags of persons on the emergency apparatus.
3. The bottom portion is for time or other information recording by the accountability officer or commanders.

C. Passports are color coded as follows:
1. White - Primary passport
2. Red - Back-up passport
3. Green - Reserve passport

D. Passports shall be carried on emergency apparatus and vehicles as follows:
1. For all emergency apparatus, passport holding Velcro strips shall be mounted on the right front seat door or on the dashboard in front of the right hand seat. Blank (no nametags) primary and back-up passports shall be mounted on this location if the apparatus or vehicle is available for response.
2. For emergency vehicles normally operated by one individual, the passports shall be mounted in a location easily accessible to the driver and (when possible) in a location easily visible from the exterior of the vehicle.
3. Reserve (Green) passports shall be kept at the station where the emergency apparatus or vehicle is assigned. Reserve passports shall be carried on apparatus only as needed when another passport is lost or damage.

E. There are two passports (white and red) for each emergency apparatus and vehicle.

1. The white passport (nametags added during the response) is retained by the Company Officer until placed on the incident's location board, or given to the IC or accountability officer.
    a. Note that individuals arriving at an emergency incident will transfer their passport or nametags in the same manner as company officers transfer passports.
2. The red passport (nametags added during the response) remains on the emergency apparatus or vehicle. This back-up passport shall be collected by the IC or accountability officer from on-scene apparatus and used for tracking when (for whatever reason) the company officer did not have an opportunity to transfer the primary passport.

F. Passport Make-up Kits in command vehicles shall contain a minimum of ten (10) green passports to cover additional teams made-up during the emergency incident.

G. Name tags shall be placed on the passport as follows:
1. Company Officer or Team Leader nametags are the first/top tag on a passport.
2. Engineer (any driver who will be remaining with the emergency apparatus) nametags are placed at the bottom of a passport and inverted.
3. The nametags of other personnel on the emergency apparatus are placed in between.

V. Emergency Incidents.

A. The Passport System shall be implemented whenever the ICS system is required to be implemented. That is, whenever two or more emergency apparatus (minus command and support vehicles) are operating at an incident, Command shall be established and the Passport System shall be implemented.

B. When a company officer reports to an emergency incident, they are responsible for transferring their primary passport to the location board, to the IC or accountability officer (as appropriate) upon arrival. An exception is: The passport shall remain with the company officer when the emergency apparatus is directed to a remote area. The passport will then be transferred to the Division Supervisor or Sector Officer. When the team leaves the hazard area or is re-assigned, the company officer will pick-up their passport and transfer it to the location board, to the IC or accountability officer (as appropriate).

C. The Incident Commander (IC) is responsible for selecting the level of passport system implementation.
1. For many fire, rescue and EMS responses (including defensive and some other structure fires), the IC can decide on Level I passport system implementation. Incident Commanders can select this level of implementation when, in their judgment, the operation is small enough so that personnel within the hot zone are, at all times, accounted for.

2. Based on the IC's judgment, when the size or complexity of an incident Level II, an accountability officer will be appointed to fully implement the passport system. Since teams are often made-up from personnel at an emergency incident location, the accountability officer may use white primary passport or green make-up passports for hot zone tracking. As appropriate and functional, the accountability officer may be located at the ICP, at the hot zone entry point, at the structure entry point, with operations, or in rehab.
    a. For structure fires, the IC may decide to limit team and individual tracking to the interior of the structure.
    b. The accountability officer record will hot zone entry times, exit times, and assignment(s) on team passports.
    c. If personnel are rotated as individuals rather than teams, the accountability officer will log nametags in and out of the hot zone.
3. For any emergency incident requiring mutual aid assistance (beyond tender support), passports shall be used to track all teams and individuals in the hot zone.

D. For very or extremely large emergency incidents (an urban interface wildland fire), tracking may be delegated to the commander level (Operations or Division) by the accountability officer. An accountability group may be formed and accountability assistants assigned to Operations, Branches or Divisions.
1. When Staging is utilized, the staging officer shall record the information from the primary passport and the check-in time. The primary passport will be retained by the company officer or the strike team/task force leader. The unit will return and/or communicate with staging to be accounted for prior to operational period deactivation.
2. The company officer or leader will give the primary passport to their supervisor (e.g., Division Supervisor) for the operational period. The company officer or leader will retain the back-up passport.
    a. In a large incident, a task force leader would retain the back-up passports of all emergency apparatus under their direction.
3. Commanders are responsible for returning primary passports to the company officer or leader at the end of the operational period or if the unit is transferred to another supervisor's area.

E. When supervisory staff are rotated at any level (IC, Operation, Division) or if the accountability officer is rotated, passports will be transferred to the new supervisor. Also, the new supervisor will be briefed on the location and status of all passport units.

F. The effective utilization of the passport system rests on good judgment and common sense. The intent of the system is to track and account for the personnel who may be at significant risk during an emergency incident. Company officer, leaders, incident commanders, accountability officers, commanders, and supervisors are expected to adapt the passport system to

achieve its accountability goal. Because teams are created on-location at many incidents, green make-up passports will often need to be developed (one reason why personnel are issued six nametags). Passports must be turned-in by arriving company officers. Nametags must be turned-in by POV arriving individuals. Passports should be turn-in, transferred, and picked-up to facilitate personnel accountability.

VI. Roll Calls. The IC, accountability officer, commanders, incident safety officer or team leaders shall use the passport system to conduct an emergency incident roll.

A. Circumstances requiring a roll call are:

1. Any time an "Emergency Traffic Announcement" (ETA) is utilized during a structure fire. See SOP 91-003, Fireground Operations/Safety.
2. Before there is a change from offensive to defensive fireground strategy.
3. When there has been a catastrophic change in an incident such as a partial or total building collapse, an explosion, backdraft, sudden flooding, landslide, etc.
4. It is known or feared that personnel are trapped in the hot zone.
5. Whenever the IC, commander or team leader believes there is a need to account for personnel.

B. If a firefighter or team is determined to be missing, the Incident Safety Officer and appropriate commander (or IC) shall initiate rescue efforts as soon as safely possible within the last known location.

C. The fireground chain-of-command shall be followed during a roll call. Reports will be verified from passports.

1. Team leaders and company officers shall account for the status of their personnel.
2. If being utilized, task force/strike team leaders will account for the status of their companies.
3. Sector or division/group supervisors shall account for the status of their teams, companies and task forces.
4. Operations shall account for the status of units within their span-of-control.
5. The accountability officer and Incident Safety Officer will use the passport system to verify the reports and relay this information to the IC.

D. Roll call information about the status of units can be obtained through direct observation (face-to-face) or through radio report.

E. At large and/or complex incidents, roll calls may be initiate and conducted within Divisions.